<110> Weintraub, Bruce D.
Szkudlinski, Mariusz W.

<120> Cystine Knot Growth Factor Mutants

<130> TROP-007/03US

<140> US 10/826,324
<141> 2004-04-19

<150> US 09/813,398
<151> 2001-03-20

<150> PCT/US99/05908
<151> 1999-03-19

<150> PCT/US98/19772
<151> 1998-09-22

<160> 42

<170> PatentIn version 3.4

<210> 1
<211> 93
<212> PRT
<213> Homo sapiens

<400> 1

Pro Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn
1 5 10 15

Pro Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys
20 25 30

Cys Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met
35 40 45

Leu Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys
50 55 60

Ser Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His
65 70 75 80

Thr Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
85 90

<210> 2

<211> 119
<212> PRT
<213> Homo sapiens

<400> 2

Pro Phe Cys Ile Pro Thr Glu Tyr Thr Met His Ile Glu Arg Arg Glu
1 5 10 15

Cys Ala Tyr Cys Leu Thr Ile Asn Thr Thr Ile Cys Ala Gly Tyr Cys
20 25 30

Met Thr Arg Asp Ile Asn Gly Lys Leu Phe Leu Pro Lys Tyr Ala Leu
35 40 45

Ser Gln Asp Val Cys Thr Tyr Arg Asp Phe Ile Tyr Arg Thr Val Glu
50 55 60

Ile Pro Gly Cys Pro Leu His Val Ala Pro Tyr Phe Ser Tyr Pro Val
65 70 75 80

Ala Leu Ser Cys Lys Cys Gly Lys Cys Asn Thr Asp Tyr Ser Asp Cys
85 90 95

Ile His Glu Ala Ile Lys Thr Asn Tyr Cys Thr Lys Pro Gln Lys Ser
100 105 110

Tyr Leu Val Gly Phe Ser Val
115

<210> 3
<211> 140
<212> PRT
<213> Homo sapiens

<400> 3

Ser Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu
1 5 10 15

Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr
20 25 30

Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val
35 40 45

Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg Phe
50 55 60

Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val
65 70 75 80

Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg Ser
85 90 95

Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp Asp
100 105 110

Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro Pro Pro Ser Leu
115 120 125

Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
130 135 140

<210> 4
<211> 122
<212> PRT
<213> Homo sapiens

<400> 4

Pro Ser Arg Glu Pro Leu Arg Pro Trp Cys His Pro Ile Asn Ala Ile
1 5 10 15

Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr
20 25 30

Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Met Arg Val Leu Gln Ala
35 40 45

Val Leu Pro Pro Leu Pro Gln Val Val Cys Thr Tyr Arg Asp Val Arg
50 55 60

Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asp Pro Val
65 70 75 80

Val Ser Phe Pro Val Ala Leu Ser Cys Arg Cys Gly Pro Cys Arg Arg
85 90 95

Ser Thr Ser Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp
100 105 110

His Pro Gln Leu Ser Gly Leu Leu Phe Leu
115 120

<210> 5
<211> 110
<212> PRT
<213> Homo sapiens

<400> 5

Pro Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys Glu
1 5 10 15

Glu Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly Tyr
20 25 30

Cys Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys Ile
35 40 45

Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg Val Pro Gly
50 55 60

Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr Gln
65 70 75 80

Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys Thr Val Arg
85 90 95

Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys Glu
100 105 110

<210> 6
<211> 126
<212> PRT
<213> Homo sapiens

<400> 6

Pro Ser Ile Glu Glu Ala Val Pro Ala Val Cys Lys Thr Arg Thr Val
1 5 10 15

Ile Tyr Glu Ile Pro Arg Ser Gln Val Asp Pro Thr Ser Ala Asn Phe
20 25 30

Leu Ile Trp Pro Pro Cys Val Glu Val Lys Arg Cys Thr Gly Cys Cys

35 40 45

Asn Thr Ser Ser Val Lys Cys Gln Pro Ser Arg Val His His Arg Ser
50 55 60

Val Lys Val Ala Lys Val Glu Tyr Val Arg Lys Lys Pro Lys Leu Lys
65 70 75 80

Glu Val Gln Val Arg Leu Glu Glu His Leu Glu Cys Ala Cys Ala Thr
85 90 95

Thr Ser Leu Asn Pro Asp Tyr Arg Glu Glu Asp Thr Gly Arg Pro Arg
100 105 110

Glu Ser Gly Lys Lys Arg Lys Arg Lys Arg Leu Lys Pro Thr
115 120 125

<210> 7
<211> 161
<212> PRT
<213> Homo sapiens

<400> 7

Pro Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala Glu
1 5 10 15

Cys Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile Asp
20 25 30

Arg Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln
35 40 45

Arg Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro Thr
50 55 60

Gln Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg
65 70 75 80

Lys Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu
85 90 95

Ala Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr Arg Ser
100 105 110

```
Pro Gly Gly Ser Gln Glu Gln Arg Ala Lys Thr Pro Gln Thr Arg Val
        115                 120                 125

Thr Ile Arg Thr Val Arg Val Arg Arg Pro Pro Lys Gly Lys His Arg
    130                 135                 140

Lys Phe Lys His Thr His Asp Lys Thr Ala Leu Lys Glu Thr Leu Gly
145                 150                 155                 160

Ala
```

<210> 8
<211> 190
<212> PRT
<213> Homo sapiens

<400> 8

```
Pro Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val
1               5                   10                  15

Lys Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr
            20                  25                  30

Leu Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe
        35                  40                  45

Lys Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp
    50                  55                  60

Glu Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln
65                  70                  75                  80

Ile Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser
                85                  90                  95

Phe Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala
            100                 105                 110

Arg Gln Glu Lys Lys Ser Val Arg Gly Lys Gly Lys Gly Gln Lys Arg
        115                 120                 125

Lys Arg Lys Lys Ser Arg Tyr Lys Ser Trp Ser Val Pro Cys Gly Pro
```

130 135 140

Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr Cys
145 150 155 160

Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg Cys Lys Ala Arg Gln Leu
165 170 175

Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg
180 185 190

<210> 9
<211> 121
<212> PRT
<213> Homo sapiens

<400> 9

Pro Ser Ser Ser His Pro Ile Phe His Arg Gly Glu Phe Ser Val Cys
1 5 10 15

Asp Ser Val Ser Val Trp Val Gly Asp Lys Thr Thr Ala Thr Asp Ile
20 25 30

Lys Gly Lys Glu Val Met Val Leu Gly Glu Val Asn Asn Ile Asn Ser
35 40 45

Val Phe Lys Gln Tyr Phe Phe Glu Thr Lys Cys Arg Asp Pro Asn Pro
50 55 60

Val Asp Ser Gly Cys Arg Gly Ile Asp Ser Lys His Trp Asn Ser Tyr
65 70 75 80

Cys Thr Thr Thr His Thr Phe Val Lys Ala Met Leu Thr Asp Gly Lys
85 90 95

Gln Ala Ala Trp Arg Phe Ile Arg Ile Asp Thr Ala Cys Val Cys Val
100 105 110

Leu Ser Arg Lys Ala Val Arg Arg Ala
115 120

<210> 10
<211> 120
<212> PRT

<213> Homo sapiens

<400> 10

```
Pro His Ser Asp Pro Ala Arg Arg Gly Glu Leu Ser Val Cys Asp Ser
1               5                   10                  15

Ile Ser Glu Trp Val Thr Ala Ala Asp Lys Lys Thr Ala Val Asp Met
            20                  25                  30

Ser Gly Gly Thr Val Thr Val Leu Glu Lys Val Ser Pro Val Lys Gly
        35                  40                  45

Gln Leu Lys Gln Tyr Phe Tyr Glu Thr Lys Cys Asn Pro Met Gly Tyr
    50                  55                  60

Thr Lys Glu Gly Cys Arg Gly Ile Asp Lys Arg His Trp Asn Ser Gln
65                  70                  75                  80

Cys Arg Thr Thr Gln Ser Tyr Val Arg Ala Met Leu Thr Asp Ser Lys
                85                  90                  95

Lys Arg Ile Gly Trp Arg Phe Ile Arg Ile Asp Thr Ser Cys Val Cys
            100                 105                 110

Ile Leu Thr Ile Lys Arg Gly Arg
        115                 120
```

<210> 11
<211> 120
<212> PRT
<213> Homo sapiens

<400> 11

```
Pro Tyr Ala Glu His Lys Ser His Arg Gly Glu Tyr Ser Val Cys Asp
1               5                   10                  15

Ser Glu Ser Leu Trp Val Thr Asp Lys Ser Ser Ala Ile Asp Ile Arg
            20                  25                  30

Gly His Gln Val Thr Val Leu Gly Glu Ile Gly Lys Thr Asn Ser Pro
        35                  40                  45

Val Lys Gln Tyr Phe Tyr Glu Thr Arg Cys Lys Glu Ala Arg Pro Val
    50                  55                  60
```

```
Lys Asn Gly Cys Arg Gly Ile Asp Asp Arg His Trp Asn Ser Gln Cys
65                  70                  75                  80

Lys Thr Ser Gln Thr Tyr Val Arg Ala Ser Leu Thr Glu Asn Asn Lys
                85                  90                  95

Leu Val Gly Trp Arg Trp Ile Arg Ile Asp Thr Ser Cys Val Cys Ala
            100                 105                 110

Leu Ser Arg Lys Ile Gly Arg Thr
        115                 120


<210>  12
<211>  131
<212>  PRT
<213>  Homo sapiens

<400>  12

Pro Gly Val Ser Glu Thr Ala Pro Ala Ser Arg Arg Gly Glu Leu Ala
1               5                   10                  15

Val Cys Asp Ala Val Ser Gly Trp Val Thr Asp Arg Arg Thr Ala Val
            20                  25                  30

Asp Leu Arg Gly Arg Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala
        35                  40                  45

Gly Gly Ser Pro Leu Arg Gln Tyr Phe Phe Glu Thr Arg Cys Lys Ala
    50                  55                  60

Asp Asn Ala Glu Glu Gly Gly Pro Gly Ala Gly Gly Gly Gly Cys Arg
65                  70                  75                  80

Gly Val Asp Arg Arg His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser
                85                  90                  95

Tyr Val Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Gly Trp Arg
            100                 105                 110

Trp Ile Arg Ile Asp Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr
        115                 120                 125
```

Gly Arg Ala
130

<210> 13
<211> 113
<212> PRT
<213> Homo sapiens

<400> 13

Pro Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys
1 5 10 15

Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys
20 25 30

Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro
35 40 45

Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala
50 55 60

Leu Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val
65 70 75 80

Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys
85 90 95

Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys
100 105 110

Ser

<210> 14
<211> 113
<212> PRT
<213> Homo sapiens

<400> 14

Pro Ala Leu Asp Ala Ala Tyr Cys Phe Arg Asn Val Gln Asp Asn Cys
1 5 10 15

Cys Leu Arg Pro Leu Tyr Ile Asp Phe Lys Arg Asp Leu Gly Trp Lys
20 25 30

Trp Ile His Glu Pro Lys Gly Tyr Asn Ala Asn Phe Cys Ala Gly Ala
35 40 45

Cys Pro Tyr Leu Trp Ser Ser Asp Thr Gln His Ser Arg Val Leu Ser
50 55 60

Leu Tyr Asn Thr Ile Asn Pro Glu Ala Ser Ala Ser Pro Cys Cys Val
65 70 75 80

Ser Gln Asp Leu Glu Pro Leu Thr Ile Leu Tyr Tyr Ile Gly Lys Thr
85 90 95

Pro Lys Ile Glu Gln Leu Ser Asn Met Ile Val Lys Ser Cys Lys Cys
100 105 110

Ser

<210> 15
<211> 113
<212> PRT
<213> Homo sapiens

<400> 15

Pro Ala Leu Asp Thr Asn Tyr Cys Phe Arg Asn Leu Glu Glu Asn Cys
1 5 10 15

Cys Val Arg Pro Leu Tyr Ile Asp Phe Arg Gln Asp Leu Gly Trp Lys
20 25 30

Trp Val His Glu Pro Lys Gly Tyr Tyr Ala Asn Phe Cys Ser Gly Pro
35 40 45

Cys Pro Tyr Leu Arg Ser Ala Asp Thr Thr His Ser Thr Val Leu Gly
50 55 60

Leu Tyr Asn Thr Leu Asn Pro Glu Ala Ser Ala Ser Pro Cys Cys Val
65 70 75 80

Pro Gln Asp Leu Glu Pro Leu Thr Ile Leu Tyr Tyr Val Gly Arg Thr
85 90 95

Pro Lys Val Glu Gln Leu Ser Asn Met Val Val Lys Ser Cys Lys Cys

```
          100                 105                 110

Ser


<210>  16
<211>  371
<212>  PRT
<213>  Hqmo sapiens

<400>  16

Pro Met Trp Pro Leu Trp Leu Cys Trp Ala Leu Trp Val Leu Pro Leu
1               5                  10                  15


Ala Gly Pro Gly Ala Ala Leu Thr Glu Glu Gln Leu Leu Ala Ser Leu
            20                  25                  30


Leu Arg Gln Leu Gln Leu Ser Glu Val Pro Val Leu Asp Arg Ala Asp
        35                  40                  45


Met Glu Lys Leu Val Ile Pro Ala His Val Arg Ala Gln Tyr Val Val
    50                  55                  60


Leu Leu Arg Arg Asp Gly Asp Arg Ser Arg Gly Lys Arg Phe Ser Gln
65                  70                  75                  80


Ser Phe Arg Glu Val Ala Gly Arg Phe Leu Ala Ser Glu Ala Ser Thr
                85                  90                  95


His Leu Leu Val Phe Gly Met Glu Gln Arg Leu Pro Pro Asn Ser Glu
            100                 105                 110


Leu Val Gln Ala Val Leu Arg Leu Phe Gln Glu Pro Val Pro Gln Gly
        115                 120                 125


Ala Leu His Arg His Gly Arg Leu Ser Pro Ala Ala Pro Lys Ala Arg
    130                 135                 140


Val Thr Val Glu Trp Leu Val Arg Asp Asp Gly Ser Asn Arg Thr Ser
145                 150                 155                 160


Leu Ile Asp Ser Arg Leu Val Ser Val His Glu Ser Gly Trp Lys Ala
                165                 170                 175
```

```
Phe Asp Val Thr Glu Ala Val Asn Phe Trp Gln Gln Leu Ser Arg Pro
        180                 185                 190

Pro Glu Pro Leu Leu Val Gln Val Ser Val Gln Arg Glu His Leu Gly
    195                 200                 205

Pro Leu Ala Ser Gly Ala His Lys Leu Val Arg Phe Ala Ser Gln Gly
210                 215                 220

Ala Pro Ala Gly Leu Gly Glu Pro Gln Leu Glu Leu His Thr Leu Asp
225                 230                 235                 240

Leu Arg Asp Tyr Gly Ala Gln Gly Asp Cys Asp Pro Glu Ala Pro Met
                245                 250                 255

Thr Glu Gly Thr Arg Cys Cys Arg Gln Glu Met Tyr Ile Asp Leu Gln
        260                 265                 270

Gly Met Lys Trp Ala Lys Asn Trp Val Leu Glu Pro Pro Gly Phe Leu
    275                 280                 285

Ala Tyr Glu Cys Val Gly Thr Cys Gln Gln Pro Pro Glu Ala Leu Ala
290                 295                 300

Phe Asn Trp Pro Phe Leu Gly Pro Arg Gln Cys Ile Ala Ser Glu Thr
305                 310                 315                 320

Ala Ser Leu Pro Met Ile Val Ser Ile Lys Glu Gly Gly Arg Thr Arg
                325                 330                 335

Pro Gln Val Val Ser Leu Pro Asn Met Arg Val Gln Lys Cys Ser Cys
            340                 345                 350

Ala Ser Asp Gly Ala Leu Val Pro Arg Arg Leu Gln His Arg Pro Trp
        355                 360                 365

Cys Ile His
370
```

<210> 17
<211> 198
<212> PRT
<213> Homo sapiens

<400> 17

Pro Met Gln Arg Trp Lys Ala Ala Ala Leu Ala Ser Val Leu Cys Ser
1 5 10 15

Ser Val Leu Ser Ile Trp Met Cys Arg Glu Gly Leu Leu Leu Ser His
20 25 30

Arg Leu Gly Pro Ala Leu Val Pro Leu His Arg Leu Pro Arg Thr Leu
35 40 45

Asp Ala Arg Ile Ala Arg Leu Ala Gln Tyr Arg Ala Leu Leu Gln Gly
50 55 60

Ala Pro Asp Ala Met Glu Leu Arg Glu Leu Thr Pro Trp Ala Gly Arg
65 70 75 80

Pro Pro Gly Pro Arg Arg Arg Ala Gly Pro Arg Arg Arg Arg Ala Arg
85 90 95

Ala Arg Leu Gly Ala Arg Pro Cys Gly Leu Arg Glu Leu Glu Val Arg
100 105 110

Val Ser Glu Leu Gly Leu Gly Tyr Ala Ser Asp Glu Thr Val Leu Phe
115 120 125

Arg Tyr Cys Ala Gly Ala Cys Glu Ala Ala Ala Arg Val Tyr Asp Leu
130 135 140

Gly Leu Arg Arg Leu Arg Gln Arg Arg Arg Leu Arg Arg Glu Arg Val
145 150 155 160

Arg Ala Gln Pro Cys Cys Arg Pro Thr Ala Tyr Glu Asp Glu Val Ser
165 170 175

Phe Leu Asp Ala His Ser Arg Tyr His Thr Val His Glu Leu Ser Ala
180 185 190

Arg Glu Cys Ala Cys Val
195

<210> 18
<211> 367

<212> PRT
<213> Homo sapiens

<400> 18

```
Pro Met Val Leu His Leu Leu Leu Phe Leu Leu Leu Thr Pro Gln Gly
1               5                  10                  15

Gly His Ser Cys Gln Gly Leu Glu Leu Ala Arg Glu Leu Val Leu Ala
            20                  25                  30

Lys Val Arg Ala Leu Phe Leu Asp Ala Leu Gly Pro Pro Ala Val Thr
        35                  40                  45

Arg Glu Gly Gly Asp Pro Gly Val Arg Arg Leu Pro Arg Arg His Ala
    50                  55                  60

Leu Gly Gly Phe Thr His Arg Gly Ser Glu Pro Glu Glu Glu Glu Asp
65                  70                  75                  80

Val Ser Gln Ala Ile Leu Phe Pro Ala Thr Asp Ala Ser Cys Glu Asp
                85                  90                  95

Lys Ser Ala Ala Arg Gly Leu Ala Gln Glu Ala Glu Glu Gly Leu Phe
            100                 105                 110

Arg Tyr Met Phe Arg Pro Ser Gln His Thr Arg Ser Arg Gln Val Thr
        115                 120                 125

Ser Ala Gln Leu Trp Phe His Thr Gly Leu Asp Arg Gln Gly Thr Ala
    130                 135                 140

Ala Ser Asn Ser Ser Glu Pro Leu Leu Gly Leu Leu Ala Leu Ser Pro
145                 150                 155                 160

Gly Gly Pro Val Ala Val Pro Met Ser Leu Gly His Ala Pro Pro His
                165                 170                 175

Trp Ala Val Leu His Leu Ala Thr Ser Ala Leu Ser Leu Leu Thr His
            180                 185                 190

Pro Val Leu Val Leu Leu Leu Arg Cys Pro Leu Cys Thr Cys Ser Ala
        195                 200                 205
```

```
Arg Pro Glu Ala Thr Pro Phe Leu Val Ala His Thr Arg Thr Arg Pro
    210                 215                 220

Pro Ser Gly Gly Glu Arg Ala Arg Arg Ser Thr Pro Leu Met Ser Trp
225                 230                 235                 240

Pro Trp Ser Pro Ser Ala Leu Arg Leu Leu Gln Arg Pro Pro Glu Glu
                245                 250                 255

Pro Ala Ala His Ala Asn Cys His Arg Val Ala Leu Asn Ile Ser Phe
            260                 265                 270

Gln Glu Leu Gly Trp Glu Arg Trp Ile Val Tyr Pro Pro Ser Phe Ile
        275                 280                 285

Phe His Tyr Cys His Gly Gly Cys Gly Leu His Ile Pro Pro Asn Leu
    290                 295                 300

Ser Leu Pro Val Pro Gly Ala Pro Pro Thr Pro Ala Gln Pro Tyr Ser
305                 310                 315                 320

Leu Leu Pro Gly Ala Gln Pro Cys Cys Ala Ala Leu Pro Gly Thr Met
                325                 330                 335

Arg Pro Leu His Val Arg Thr Thr Ser Asp Gly Gly Tyr Ser Phe Lys
            340                 345                 350

Tyr Glu Thr Val Pro Asn Leu Leu Thr Gln His Cys Ala Cys Ile
        355                 360                 365
```

<210> 19
<211> 427
<212> PRT
<213> Homo sapiens

<400> 19

```
Pro Met Pro Leu Leu Trp Leu Arg Gly Phe Leu Leu Ala Ser Cys Trp
1               5                   10                  15

Ile Ile Val Arg Ser Ser Pro Thr Pro Gly Ser Glu Gly His Ser Ala
            20                  25                  30

Ala Pro Asp Cys Pro Ser Cys Ala Leu Ala Ala Leu Pro Lys Asp Val
        35                  40                  45
```

```
Pro Asn Ser Gln Pro Glu Met Val Glu Ala Val Lys Lys His Ile Leu
    50                  55                  60

Asn Met Leu His Leu Lys Lys Arg Pro Asp Val Thr Gln Pro Val Pro
65                  70                  75                  80

Lys Ala Ala Leu Leu Asn Ala Ile Arg Lys Leu His Val Gly Lys Val
                85                  90                  95

Gly Glu Asn Gly Tyr Val Glu Ile Glu Asp Asp Ile Gly Arg Arg Ala
            100                 105                 110

Glu Met Asn Glu Leu Met Glu Gln Thr Ser Glu Ile Ile Thr Phe Ala
        115                 120                 125

Glu Ser Gly Thr Ala Arg Lys Thr Leu His Phe Glu Ile Ser Lys Glu
    130                 135                 140

Gly Ser Asp Leu Ser Val Val Glu Arg Ala Glu Val Trp Leu Phe Leu
145                 150                 155                 160

Lys Val Pro Lys Ala Asn Arg Thr Arg Thr Lys Val Thr Ile Arg Leu
                165                 170                 175

Phe Gln Gln Gln Lys His Pro Gln Gly Ser Leu Asp Thr Gly Glu Glu
            180                 185                 190

Ala Glu Glu Val Gly Leu Lys Gly Glu Arg Ser Glu Leu Leu Leu Ser
        195                 200                 205

Glu Lys Val Val Asp Ala Arg Lys Ser Thr Trp His Val Phe Pro Val
    210                 215                 220

Ser Ser Ser Ile Gln Arg Leu Leu Asp Gln Gly Lys Ser Ser Leu Asp
225                 230                 235                 240

Val Arg Ile Ala Cys Glu Gln Cys Gln Glu Ser Gly Ala Ser Leu Val
                245                 250                 255

Leu Leu Gly Lys Lys Lys Lys Lys Glu Glu Glu Gly Glu Gly Lys Lys
            260                 265                 270
```

Lys Gly Gly Gly Glu Gly Gly Ala Gly Ala Asp Glu Glu Lys Glu Gln
275 280 285

Ser His Arg Pro Phe Leu Met Leu Gln Ala Arg Gln Ser Glu Asp His
290 295 300

Pro His Arg Arg Arg Arg Arg Gly Leu Glu Cys Asp Gly Lys Val Asn
305 310 315 320

Ile Cys Cys Lys Lys Gln Phe Phe Val Ser Phe Lys Asp Ile Gly Trp
325 330 335

Asn Asp Trp Ile Ile Ala Pro Ser Gly Tyr His Ala Asn Tyr Cys Glu
340 345 350

Gly Glu Cys Pro Ser His Ile Ala Gly Thr Ser Gly Ser Ser Leu Ser
355 360 365

Phe His Ser Thr Val Ile Asn His Tyr Arg Met Arg Gly His Ser Pro
370 375 380

Phe Ala Asn Leu Lys Ser Cys Cys Val Pro Thr Lys Leu Arg Pro Met
385 390 395 400

Ser Met Leu Tyr Tyr Asp Asp Gly Gln Asn Ile Ile Lys Lys Asp Ile
405 410 415

Gln Asn Met Ile Val Glu Glu Cys Gly Cys Ser
420 425

<210> 20
<211> 408
<212> PRT
<213> Homo sapiens

<400> 20

Pro Met Asp Gly Leu Pro Gly Arg Ala Leu Gly Ala Ala Cys Leu Leu
1 5 10 15

Leu Leu Ala Ala Gly Trp Leu Gly Pro Glu Ala Trp Gly Ser Pro Thr
20 25 30

Pro Pro Pro Thr Pro Ala Ala Pro Pro Pro Pro Pro Pro Pro Gly Ser

```
        35                  40                  45

Pro Gly Gly Ser Gln Asp Thr Cys Thr Ser Cys Gly Gly Phe Arg Arg
    50                  55                  60

Pro Glu Glu Leu Gly Arg Val Asp Gly Asp Phe Leu Glu Ala Val Lys
65                  70                  75                  80

Arg His Ile Leu Ser Arg Leu Gln Met Arg Gly Arg Pro Asn Ile Thr
                85                  90                  95

His Ala Val Pro Lys Ala Ala Met Val Thr Ala Leu Arg Lys Leu His
            100                 105                 110

Ala Gly Lys Val Arg Glu Asp Gly Arg Val Glu Ile Pro His Leu Asp
        115                 120                 125

Gly His Ala Ser Pro Gly Ala Asp Gly Gln Glu Arg Val Ser Glu Ile
    130                 135                 140

Ile Ser Phe Ala Glu Thr Asp Gly Leu Ala Ser Ser Arg Val Arg Leu
145                 150                 155                 160

Tyr Phe Phe Ile Ser Asn Glu Gly Asn Gln Asn Leu Phe Val Val Gln
                165                 170                 175

Ala Ser Leu Trp Leu Tyr Leu Lys Leu Leu Pro Tyr Val Leu Glu Lys
            180                 185                 190

Gly Ser Arg Arg Lys Val Arg Val Lys Val Tyr Phe Gln Glu Gln Gly
        195                 200                 205

His Gly Asp Arg Trp Asn Met Val Glu Lys Arg Val Asp Leu Lys Arg
    210                 215                 220

Ser Gly Trp His Thr Phe Pro Leu Thr Glu Ala Ile Gln Ala Leu Phe
225                 230                 235                 240

Glu Arg Gly Glu Arg Arg Leu Asn Leu Asp Val Gln Cys Asp Ser Cys
                245                 250                 255

Gln Glu Leu Ala Val Val Pro Val Phe Val Asp Pro Gly Glu Glu Ser
            260                 265                 270
```

His Arg Pro Phe Val Val Val Gln Ala Arg Leu Gly Asp Ser Arg His
275 280 285

Arg Ile Arg Lys Arg Gly Leu Glu Cys Asp Gly Arg Thr Asn Leu Cys
290 295 300

Cys Arg Gln Gln Phe Phe Ile Asp Phe Arg Leu Ile Gly Trp Asn Asp
305 310 315 320

Trp Ile Ile Ala Pro Thr Gly Tyr Tyr Gly Asn Tyr Cys Glu Gly Ser
325 330 335

Cys Pro Ala Tyr Leu Ala Gly Val Pro Gly Ser Ala Ser Ser Phe His
340 345 350

Thr Ala Val Val Asn Gln Tyr Arg Met Arg Gly Leu Asn Pro Gly Thr
355 360 365

Val Asn Ser Cys Cys Ile Pro Thr Lys Leu Ser Thr Met Ser Met Leu
370 375 380

Tyr Phe Asp Asp Glu Tyr Asn Ile Val Lys Arg Asp Val Pro Asn Met
385 390 395 400

Ile Val Glu Glu Cys Gly Cys Ala
405

<210> 21
<211> 427
<212> PRT
<213> Homo sapiens

<400> 21

Pro Met Pro Leu Leu Trp Leu Arg Gly Phe Leu Leu Ala Ser Cys Trp
1 5 10 15

Ile Ile Val Arg Ser Ser Pro Thr Pro Gly Ser Glu Gly His Ser Ala
20 25 30

Ala Pro Asp Cys Pro Ser Cys Ala Leu Ala Ala Leu Pro Lys Asp Val
35 40 45

```
Pro Asn Ser Gln Pro Glu Met Val Glu Ala Val Lys Lys His Ile Leu
    50                  55                  60

Asn Met Leu His Leu Lys Lys Arg Pro Asp Val Thr Gln Pro Val Pro
65                  70                  75                  80

Lys Ala Ala Leu Leu Asn Ala Ile Arg Lys Leu His Val Gly Lys Val
                85                  90                  95

Gly Glu Asn Gly Tyr Val Glu Ile Glu Asp Asp Ile Gly Arg Arg Ala
            100                 105                 110

Glu Met Asn Glu Leu Met Glu Gln Thr Ser Glu Ile Ile Thr Phe Ala
        115                 120                 125

Glu Ser Gly Thr Ala Arg Lys Thr Leu His Phe Glu Ile Ser Lys Glu
    130                 135                 140

Gly Ser Asp Leu Ser Val Val Glu Arg Ala Glu Val Trp Leu Phe Leu
145                 150                 155                 160

Lys Val Pro Lys Ala Asn Arg Thr Arg Thr Lys Val Thr Ile Arg Leu
                165                 170                 175

Phe Gln Gln Gln Lys His Pro Gln Gly Ser Leu Asp Thr Gly Glu Glu
            180                 185                 190

Ala Glu Glu Val Gly Leu Lys Gly Glu Arg Ser Glu Leu Leu Leu Ser
        195                 200                 205

Glu Lys Val Val Asp Ala Arg Lys Ser Thr Trp His Val Phe Pro Val
    210                 215                 220

Ser Ser Ser Ile Gln Arg Leu Leu Asp Gln Gly Lys Ser Ser Leu Asp
225                 230                 235                 240

Val Arg Ile Ala Cys Glu Gln Cys Gln Glu Ser Gly Ala Ser Leu Val
                245                 250                 255

Leu Leu Gly Lys Lys Lys Lys Lys Glu Glu Glu Gly Glu Gly Lys Lys
            260                 265                 270

Lys Gly Gly Gly Glu Gly Gly Ala Gly Ala Asp Glu Glu Lys Glu Gln
```

```
        275                 280                 285

Ser His Arg Pro Phe Leu Met Leu Gln Ala Arg Gln Ser Glu Asp His
    290                 295                 300

Pro His Arg Arg Arg Arg Arg Gly Leu Glu Cys Asp Gly Lys Val Asn
305                 310                 315                 320

Ile Cys Cys Lys Lys Gln Phe Phe Val Ser Phe Lys Asp Ile Gly Trp
                325                 330                 335

Asn Asp Trp Ile Ile Ala Pro Ser Gly Tyr His Ala Asn Tyr Cys Glu
            340                 345                 350

Gly Glu Cys Pro Ser His Ile Ala Gly Thr Ser Gly Ser Ser Leu Ser
        355                 360                 365

Phe His Ser Thr Val Ile Asn His Tyr Arg Met Arg Gly His Ser Pro
    370                 375                 380

Phe Ala Asn Leu Lys Ser Cys Cys Val Pro Thr Lys Leu Arg Pro Met
385                 390                 395                 400

Ser Met Leu Tyr Tyr Asp Asp Gly Gln Asn Ile Ile Lys Lys Asp Ile
                405                 410                 415

Gln Asn Met Ile Val Glu Glu Cys Gly Cys Ser
            420                 425

<210>  22
<211>  408
<212>  PRT
<213>  Homo sapiens

<400>  22

Pro Met Asp Gly Leu Pro Gly Arg Ala Leu Gly Ala Ala Cys Leu Leu
1               5                   10                  15

Leu Leu Ala Ala Gly Trp Leu Gly Pro Glu Ala Trp Gly Ser Pro Thr
            20                  25                  30

Pro Pro Pro Thr Pro Ala Ala Pro Pro Pro Pro Pro Pro Pro Gly Ser
        35                  40                  45
```

```
Pro Gly Gly Ser Gln Asp Thr Cys Thr Ser Cys Gly Gly Phe Arg Arg
    50                  55                  60

Pro Glu Glu Leu Gly Arg Val Asp Gly Asp Phe Leu Glu Ala Val Lys
65                  70                  75                  80

Arg His Ile Leu Ser Arg Leu Gln Met Arg Gly Arg Pro Asn Ile Thr
                85                  90                  95

His Ala Val Pro Lys Ala Ala Met Val Thr Ala Leu Arg Lys Leu His
            100                 105                 110

Ala Gly Lys Val Arg Glu Asp Gly Arg Val Glu Ile Pro His Leu Asp
        115                 120                 125

Gly His Ala Ser Pro Gly Ala Asp Gly Gln Glu Arg Val Ser Glu Ile
    130                 135                 140

Ile Ser Phe Ala Glu Thr Asp Gly Leu Ala Ser Ser Arg Val Arg Leu
145                 150                 155                 160

Tyr Phe Phe Ile Ser Asn Glu Gly Asn Gln Asn Leu Phe Val Val Gln
                165                 170                 175

Ala Ser Leu Trp Leu Tyr Leu Lys Leu Leu Pro Tyr Val Leu Glu Lys
            180                 185                 190

Gly Ser Arg Arg Lys Val Arg Val Lys Val Tyr Phe Gln Glu Gln Gly
        195                 200                 205

His Gly Asp Arg Trp Asn Met Val Glu Lys Arg Val Asp Leu Lys Arg
    210                 215                 220

Ser Gly Trp His Thr Phe Pro Leu Thr Glu Ala Ile Gln Ala Leu Phe
225                 230                 235                 240

Glu Arg Gly Glu Arg Arg Leu Asn Leu Asp Val Gln Cys Asp Ser Cys
                245                 250                 255

Gln Glu Leu Ala Val Val Pro Val Phe Val Asp Pro Gly Glu Glu Ser
            260                 265                 270
```

```
His Arg Pro Phe Val Val Val Gln Ala Arg Leu Gly Asp Ser Arg His
        275                 280                 285

Arg Ile Arg Lys Arg Gly Leu Glu Cys Asp Gly Arg Thr Asn Leu Cys
    290                 295                 300

Cys Arg Gln Gln Phe Phe Ile Asp Phe Arg Leu Ile Gly Trp Asn Asp
305                 310                 315                 320

Trp Ile Ile Ala Pro Thr Gly Tyr Tyr Gly Asn Tyr Cys Glu Gly Ser
                325                 330                 335

Cys Pro Ala Tyr Leu Ala Gly Val Pro Gly Ser Ala Ser Ser Phe His
            340                 345                 350

Thr Ala Val Val Asn Gln Tyr Arg Met Arg Gly Leu Asn Pro Gly Thr
        355                 360                 365

Val Asn Ser Cys Cys Ile Pro Thr Lys Leu Ser Thr Met Ser Met Leu
    370                 375                 380

Tyr Phe Asp Asp Glu Tyr Asn Ile Val Lys Arg Asp Val Pro Asn Met
385                 390                 395                 400

Ile Val Glu Glu Cys Gly Cys Ala
                405
```

<210> 23
<211> 561
<212> PRT
<213> Homo sapiens

<400> 23

```
Pro Met Arg Asp Leu Pro Leu Thr Ser Leu Ala Leu Val Leu Ser Ala
1               5                   10                  15

Leu Gly Ala Leu Leu Gly Thr Glu Ala Leu Arg Ala Glu Glu Pro Ala
            20                  25                  30

Val Gly Thr Ser Gly Leu Ile Phe Arg Glu Asp Leu Asp Trp Pro Pro
        35                  40                  45

Gly Ile Pro Gln Glu Pro Leu Cys Leu Val Ala Leu Gly Gly Asp Ser
    50                  55                  60
```

```
Asn Gly Ser Ser Ser Pro Leu Arg Val Val Gly Ala Leu Ser Ala Tyr
65                  70                  75                  80

Glu Gln Ala Phe Leu Gly Ala Val Gln Arg Ala Arg Trp Gly Pro Arg
                85                  90                  95

Asp Leu Ala Thr Phe Gly Val Cys Asn Thr Gly Asp Arg Gln Ala Ala
            100                 105                 110

Leu Pro Ser Leu Arg Arg Leu Gly Ala Trp Leu Arg Asp Pro Gly Gly
        115                 120                 125

Gln Arg Leu Val Val Leu His Leu Glu Glu Val Thr Trp Glu Pro Thr
    130                 135                 140

Pro Ser Leu Arg Phe Gln Glu Pro Pro Pro Gly Gly Ala Gly Pro Pro
145                 150                 155                 160

Glu Leu Ala Leu Leu Val Leu Tyr Pro Gly Pro Gly Pro Glu Val Thr
                165                 170                 175

Val Thr Arg Ala Gly Leu Pro Gly Ala Gln Ser Leu Cys Pro Ser Arg
            180                 185                 190

Asp Thr Arg Tyr Leu Val Leu Ala Val Asp Arg Pro Ala Gly Ala Trp
        195                 200                 205

Arg Gly Ser Gly Leu Ala Leu Thr Leu Gln Pro Arg Gly Glu Asp Ser
    210                 215                 220

Arg Leu Ser Thr Ala Arg Leu Gln Ala Leu Leu Phe Gly Asp Asp His
225                 230                 235                 240

Arg Cys Phe Thr Arg Met Thr Pro Ala Leu Leu Leu Leu Pro Arg Ser
                245                 250                 255

Glu Pro Ala Pro Leu Pro Ala His Gly Gln Leu Asp Thr Val Pro Phe
            260                 265                 270

Pro Pro Pro Arg Pro Ser Ala Glu Leu Glu Glu Ser Pro Pro Ser Ala
        275                 280                 285
```

```
Asp Pro Phe Leu Glu Thr Leu Thr Arg Leu Val Arg Ala Leu Arg Val
    290                 295                 300

Pro Pro Ala Arg Ala Ser Ala Pro Arg Leu Ala Leu Asp Pro Asp Ala
305                 310                 315                 320

Leu Ala Gly Phe Pro Gln Gly Leu Val Asn Leu Ser Asp Pro Ala Ala
                325                 330                 335

Leu Glu Arg Leu Leu Asp Gly Glu Glu Pro Leu Leu Leu Leu Leu Arg
            340                 345                 350

Pro Thr Ala Ala Thr Thr Gly Asp Pro Ala Pro Leu His Asp Pro Thr
        355                 360                 365

Ser Ala Pro Trp Ala Thr Ala Leu Ala Arg Arg Val Ala Ala Glu Leu
    370                 375                 380

Gln Ala Ala Ala Ala Glu Leu Arg Ser Leu Pro Gly Leu Pro Pro Ala
385                 390                 395                 400

Thr Ala Pro Leu Leu Ala Arg Leu Leu Ala Leu Cys Pro Gly Gly Pro
            405                 410                 415

Gly Gly Leu Gly Asp Pro Leu Arg Ala Leu Leu Leu Leu Lys Ala Leu
            420                 425                 430

Gln Gly Leu Arg Val Glu Trp Arg Gly Arg Asp Pro Arg Gly Pro Gly
        435                 440                 445

Arg Ala Gln Arg Ser Ala Gly Ala Thr Ala Ala Asp Gly Pro Cys Ala
    450                 455                 460

Leu Arg Glu Leu Ser Val Asp Leu Arg Ala Glu Arg Ser Val Leu Ile
465                 470                 475                 480

Pro Glu Thr Tyr Gln Ala Asn Asn Cys Gln Gly Val Cys Gly Trp Pro
            485                 490                 495

Gln Ser Asp Arg Asn Pro Arg Tyr Gly Asn His Val Val Leu Leu Leu
            500                 505                 510
```

Lys Met Gln Ala Arg Gly Ala Ala Leu Ala Arg Pro Pro Cys Cys Val
515 520 525

Pro Thr Ala Tyr Ala Gly Lys Leu Leu Ile Ser Leu Ser Glu Glu Arg
530 535 540

Ile Ser Ala His His Val Pro Asn Met Val Ala Thr Glu Cys Gly Cys
545 550 555 560

Arg

<210> 24
<211> 397
<212> PRT
<213> Homo sapiens

<400> 24

Pro Met Val Ala Gly Thr Arg Cys Leu Leu Ala Leu Leu Leu Pro Gln
1 5 10 15

Val Leu Leu Gly Gly Ala Ala Gly Leu Val Pro Glu Leu Gly Arg Arg
20 25 30

Lys Phe Ala Ala Ala Ser Ser Gly Arg Pro Ser Ser Gln Pro Ser Asp
35 40 45

Glu Val Leu Ser Glu Phe Glu Leu Arg Leu Leu Ser Met Phe Gly Leu
50 55 60

Lys Gln Arg Pro Thr Pro Ser Arg Asp Ala Val Val Pro Pro Tyr Met
65 70 75 80

Leu Asp Leu Tyr Arg Arg His Ser Gly Gln Pro Gly Ser Pro Ala Pro
85 90 95

Asp His Arg Leu Glu Arg Ala Ala Ser Arg Ala Asn Thr Val Arg Ser
100 105 110

Phe His His Glu Glu Ser Leu Glu Glu Leu Pro Glu Thr Ser Gly Lys
115 120 125

Thr Thr Arg Arg Phe Phe Phe Asn Leu Ser Ser Ile Pro Thr Glu Glu
130 135 140

```
Phe Ile Thr Ser Ala Glu Leu Gln Val Phe Arg Glu Gln Met Gln Asp
145                 150                 155                 160

Ala Leu Gly Asn Asn Ser Ser Phe His His Arg Ile Asn Ile Tyr Glu
                165                 170                 175

Ile Ile Lys Pro Ala Thr Ala Asn Ser Lys Phe Pro Val Thr Arg Leu
            180                 185                 190

Leu Asp Thr Arg Leu Val Asn Gln Asn Ala Ser Arg Trp Glu Ser Phe
        195                 200                 205

Asp Val Thr Pro Ala Val Met Arg Trp Thr Ala Gln Gly His Ala Asn
    210                 215                 220

His Gly Phe Val Val Glu Val Ala His Leu Glu Glu Lys Gln Gly Val
225                 230                 235                 240

Ser Lys Arg His Val Arg Ile Ser Arg Ser Leu His Gln Asp Glu His
                245                 250                 255

Ser Trp Ser Gln Ile Arg Pro Leu Leu Val Thr Phe Gly His Asp Gly
            260                 265                 270

Lys Gly His Pro Leu His Lys Arg Glu Lys Arg Gln Ala Lys His Lys
        275                 280                 285

Gln Arg Lys Arg Leu Lys Ser Ser Cys Lys Arg His Pro Leu Tyr Val
    290                 295                 300

Asp Phe Ser Asp Val Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly
305                 310                 315                 320

Tyr His Ala Phe Tyr Cys His Gly Glu Cys Pro Phe Pro Leu Ala Asp
                325                 330                 335

His Leu Asn Ser Thr Asn His Ala Ile Val Gln Thr Leu Val Asn Ser
            340                 345                 350

Val Asn Ser Lys Ile Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser
        355                 360                 365
```

```
Ala Ile Ser Met Leu Tyr Leu Asp Glu Asn Glu Lys Val Val Leu Lys
    370                 375                 380

Asn Tyr Gln Asp Met Val Val Glu Gly Cys Gly Cys Arg
385                 390                 395

<210>  25
<211>  473
<212>  PRT
<213>  Homo sapiens

<400>  25

Pro Met Ala Gly Ala Ser Arg Leu Leu Phe Leu Trp Leu Gly Cys Phe
1               5                   10                  15

Cys Val Ser Leu Ala Gln Gly Glu Arg Pro Lys Pro Pro Phe Pro Glu
            20                  25                  30

Leu Arg Lys Ala Val Pro Gly Asp Arg Thr Ala Gly Gly Gly Pro Asp
        35                  40                  45

Ser Glu Leu Gln Pro Gln Asp Lys Val Ser Glu His Met Leu Arg Leu
    50                  55                  60

Tyr Asp Arg Tyr Ser Thr Val Gln Ala Ala Arg Thr Pro Gly Ser Leu
65                  70                  75                  80

Glu Gly Gly Ser Gln Pro Trp Arg Pro Arg Leu Leu Arg Glu Gly Asn
                85                  90                  95

Thr Val Arg Ser Phe Arg Ala Ala Ala Ala Glu Thr Leu Glu Arg Lys
            100                 105                 110

Gly Leu Tyr Ile Phe Asn Leu Thr Ser Leu Thr Lys Ser Glu Asn Ile
        115                 120                 125

Leu Ser Ala Thr Leu Tyr Phe Cys Ile Gly Glu Leu Gly Asn Ile Ser
    130                 135                 140

Leu Ser Cys Pro Val Ser Gly Gly Cys Ser His His Ala Gln Arg Lys
145                 150                 155                 160

His Ile Gln Ile Asp Leu Ser Ala Trp Thr Leu Lys Phe Ser Arg Asn
```

```
                165                 170                 175

Gln Ser Gln Leu Leu Gly His Leu Ser Val Asp Met Ala Lys Ser His
            180                 185                 190

Arg Asp Ile Met Ser Trp Leu Ser Lys Asp Ile Thr Gln Phe Leu Arg
        195                 200                 205

Lys Ala Lys Glu Asn Glu Glu Phe Leu Ile Gly Phe Asn Ile Thr Ser
    210                 215                 220

Lys Gly Arg Gln Leu Pro Lys Arg Arg Leu Pro Phe Pro Glu Pro Tyr
225                 230                 235                 240

Ile Leu Val Tyr Ala Asn Asp Ala Ala Ile Ser Glu Pro Glu Ser Val
                245                 250                 255

Val Ser Ser Leu Gln Gly His Arg Asn Phe Pro Thr Gly Thr Val Pro
            260                 265                 270

Lys Trp Asp Ser His Ile Arg Ala Ala Leu Ser Ile Glu Arg Arg Lys
        275                 280                 285

Lys Arg Ser Thr Gly Val Leu Leu Pro Leu Gln Asn Asn Glu Leu Pro
    290                 295                 300

Gly Ala Glu Tyr Gln Tyr Lys Lys Asp Glu Val Trp Glu Glu Arg Lys
305                 310                 315                 320

Pro Tyr Lys Thr Leu Gln Ala Gln Ala Pro Glu Lys Ser Lys Asn Lys
                325                 330                 335

Lys Lys Gln Arg Lys Gly Pro His Arg Lys Ser Gln Thr Leu Gln Phe
            340                 345                 350

Asp Glu Gln Thr Leu Lys Lys Ala Arg Arg Lys Gln Trp Ile Glu Pro
        355                 360                 365

Arg Asn Cys Ala Arg Arg Tyr Leu Lys Val Asp Phe Ala Asp Ile Gly
    370                 375                 380

Trp Ser Glu Trp Ile Ile Ser Pro Lys Ser Phe Asp Ala Tyr Tyr Cys
385                 390                 395                 400
```

Ser Gly Ala Cys Gln Phe Pro Met Pro Lys Ser Leu Lys Pro Ser Asn
405 410 415

His Ala Thr Ile Gln Ser Ile Val Arg Ala Val Gly Val Val Pro Gly
420 425 430

Ile Pro Glu Pro Cys Cys Val Pro Glu Lys Met Ser Ser Leu Ser Ile
435 440 445

Leu Phe Phe Asp Glu Asn Lys Asn Val Val Leu Lys Val Tyr Pro Asn
450 455 460

Met Thr Val Glu Ser Cys Ala Cys Arg
465 470

<210> 26
<211> 479
<212> PRT
<213> Homo sapiens

<400> 26

Pro Met Ala His Val Pro Ala Arg Thr Ser Pro Gly Pro Gly Pro Gln
1 5 10 15

Leu Leu Leu Leu Leu Leu Pro Leu Phe Leu Leu Leu Leu Arg Asp Val
20 25 30

Ala Gly Ser His Arg Ala Pro Ala Trp Ser Ala Leu Pro Ala Ala Ala
35 40 45

Asp Gly Leu Gln Gly Asp Arg Asp Leu Gln Arg His Pro Gly Asp Ala
50 55 60

Ala Ala Thr Leu Gly Pro Ser Ala Gln Asp Met Val Ala Val His Met
65 70 75 80

His Arg Leu Tyr Glu Lys Tyr Ser Arg Gln Gly Ala Arg Pro Gly Gly
85 90 95

Gly Asn Thr Val Arg Ser Phe Arg Ala Arg Leu Glu Val Val Asp Gln
100 105 110

```
Lys Ala Val Tyr Phe Phe Asn Leu Thr Ser Met Gln Asp Ser Glu Met
        115                 120                 125

Ile Leu Thr Ala Thr Phe His Phe Tyr Ser Glu Pro Pro Arg Trp Pro
    130                 135                 140

Arg Ala Leu Glu Val Leu Cys Lys Pro Arg Ala Lys Asn Ala Ser Gly
145                 150                 155                 160

Arg Pro Leu Pro Leu Gly Pro Pro Thr Arg Gln His Leu Leu Phe Arg
                165                 170                 175

Ser Leu Ser Gln Asn Thr Ala Thr Gln Gly Leu Leu Arg Gly Ala Met
            180                 185                 190

Ala Leu Ala Pro Pro Pro Arg Gly Leu Trp Gln Ala Lys Asp Ile Ser
        195                 200                 205

Pro Ile Val Lys Ala Ala Arg Arg Asp Gly Glu Leu Leu Leu Ser Ala
    210                 215                 220

Gln Leu Asp Ser Glu Glu Arg Asp Pro Gly Val Pro Arg Pro Ser Pro
225                 230                 235                 240

Tyr Ala Pro Tyr Ile Leu Val Tyr Ala Asn Asp Leu Ala Ile Ser Glu
                245                 250                 255

Pro Asn Ser Val Ala Val Thr Leu Gln Arg Tyr Asp Pro Phe Pro Ala
            260                 265                 270

Gly Asp Pro Glu Pro Arg Ala Ala Pro Asn Asn Ser Ala Asp Pro Arg
        275                 280                 285

Val Arg Arg Ala Ala Gln Ala Thr Gly Pro Leu Gln Asp Asn Glu Leu
    290                 295                 300

Pro Gly Leu Asp Glu Arg Pro Pro Arg Ala His Ala Gln His Phe His
305                 310                 315                 320

Lys His Gln Leu Trp Pro Ser Pro Phe Arg Ala Leu Lys Pro Arg Pro
                325                 330                 335

Gly Arg Lys Asp Arg Arg Lys Lys Gly Gln Glu Val Phe Met Ala Ala
```

```
          340                 345                 350
           .

Ser Gln Val Leu Asp Phe Asp Glu Lys Thr Met Gln Lys Ala Arg Arg
        355                 360                 365

Lys Gln Trp Asp Glu Pro Arg Val Cys Ser Arg Arg Tyr Leu Lys Val
    370                 375                 380

Asp Phe Ala Asp Ile Gly Trp Asn Glu Trp Ile Ile Ser Pro Lys Ser
385                 390                 395                 400

Phe Asp Ala Tyr Tyr Cys Ala Gly Ala Cys Glu Phe Pro Met Pro Lys
                405                 410                 415

Ile Val Arg Pro Ser Asn His Ala Thr Ile Gln Ser Ile Val Arg Ala
        .   420                 425                 430

Val Gly Ile Ile Pro Gly Ile Pro Glu Pro Cys Cys Val Pro Asp Lys
        435                 440                 445

Met Asn Ser Leu Gly Val Leu Phe Leu Asp Glu Asn Arg Asn Val Val
    450                 455                 460

Leu Lys Val Tyr Pro Asn Met Ser Val Asp Thr Cys Ala Cys Arg
465                 470                 475

<210>  27
<211>  409
<212>  PRT
<213>  Homo sapiens

<400>  27

Pro Met Ile Pro Gly Asn Arg Met Leu Met Val Val Leu Leu Cys Gln
1               5                   10                  15

Val Leu Leu Gly Gly Ala Ser His Ala Ser Leu Ile Pro Glu Thr Gly
            20                  25                  30

Lys Lys Lys Val Ala Glu Ile Gln Gly His Ala Gly Gly Arg Arg Ser
        35                  40                  45

Gly Gln Ser His Glu Leu Leu Arg Asp Phe Glu Ala Thr Leu Leu Gln
    50                  55                  60
```

```
Met Phe Gly Leu Arg Arg Arg Pro Gln Pro Ser Lys Ser Ala Val Ile
65                  70                  75                  80

Pro Asp Tyr Met Arg Asp Leu Tyr Arg Leu Gln Ser Gly Glu Glu Glu
                85                  90                  95

Glu Glu Gln Ile His Ser Thr Gly Leu Glu Tyr Pro Glu Arg Pro Ala
            100                 105                 110

Ser Arg Ala Asn Thr Val Arg Ser Phe His His Glu Glu His Leu Glu
        115                 120                 125

Asn Ile Pro Gly Thr Ser Glu Asn Ser Ala Phe Arg Phe Leu Phe Asn
    130                 135                 140

Leu Ser Ser Ile Pro Glu Asn Glu Ala Ile Ser Ser Ala Glu Leu Arg
145                 150                 155                 160

Leu Phe Arg Glu Gln Val Asp Gln Gly Pro Asp Trp Glu Arg Gly Phe
            165                 170                 175

His Arg Ile Asn Ile Tyr Glu Val Met Lys Pro Pro Ala Glu Val Val
            180                 185                 190

Pro Gly His Leu Ile Thr Arg Leu Leu Asp Thr Arg Leu Val His His
        195                 200                 205

Asn Val Thr Arg Trp Glu Thr Phe Asp Val Ser Pro Ala Val Leu Arg
    210                 215                 220

Trp Thr Arg Glu Lys Gln Pro Asn Tyr Gly Leu Ala Ile Glu Val Thr
225                 230                 235                 240

His Leu His Gln Thr Arg Thr His Gln Gly Gln His Val Arg Ile Ser
            245                 250                 255

Arg Ser Leu Pro Gln Gly Ser Gly Asn Trp Ala Gln Leu Arg Pro Leu
            260                 265                 270

Leu Val Thr Phe Gly His Asp Gly Arg Gly His Ala Leu Thr Arg Arg
        275                 280                 285
```

```
Arg Arg Ala Lys Arg Ser Pro Lys His His Ser Gln Arg Ala Arg Lys
    290                 295                 300

Lys Asn Lys Asn Cys Arg Arg His Ser Leu Tyr Val Asp Phe Ser Asp
305                 310                 315                 320

Val Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe
                325                 330                 335

Tyr Cys His Gly Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser
            340                 345                 350

Thr Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser
        355                 360                 365

Ile Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met
    370                 375                 380

Leu Tyr Leu Asp Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu
385                 390                 395                 400

Met Val Val Glu Gly Cys Gly Cys Arg
                405
```

<210> 28
<211> 455
<212> PRT
<213> Homo sapiens

<400> 28

```
Pro Met His Leu Thr Val Phe Leu Leu Lys Gly Ile Val Gly Phe Leu
1               5                   10                  15

Trp Ser Cys Trp Val Leu Val Gly Tyr Ala Lys Gly Gly Leu Gly Asp
            20                  25                  30

Asn His Val His Ser Ser Phe Ile Tyr Arg Arg Leu Arg Asn His Glu
        35                  40                  45

Arg Arg Glu Ile Gln Arg Glu Ile Leu Ser Ile Leu Gly Leu Pro His
    50                  55                  60

Arg Pro Arg Pro Phe Ser Pro Gly Lys Gln Ala Ser Ser Ala Pro Leu
65                  70                  75                  80
```

```
Phe Met Leu Asp Leu Tyr Asn Ala Met Thr Asn Glu Glu Asn Pro Glu
                85                  90                  95

Glu Ser Glu Tyr Ser Val Arg Ala Ser Leu Ala Glu Glu Thr Arg Gly
            100                 105                 110

Ala Arg Lys Gly Tyr Pro Ala Ser Pro Asn Gly Tyr Pro Arg Arg Ile
        115                 120                 125

Gln Leu Ser Arg Thr Thr Pro Leu Thr Thr Gln Ser Pro Pro Leu Ala
    130                 135                 140

Ser Leu His Asp Thr Asn Phe Leu Asn Asp Ala Asp Met Val Met Ser
145                 150                 155                 160

Phe Val Asn Leu Val Glu Arg Asp Lys Asp Phe Ser His Gln Arg Arg
                165                 170                 175

His Tyr Lys Glu Phe Arg Phe Asp Leu Thr Gln Ile Pro His Gly Glu
            180                 185                 190

Ala Val Thr Ala Ala Glu Phe Arg Ile Tyr Lys Asp Arg Ser Asn Asn
        195                 200                 205

Arg Phe Glu Asn Glu Thr Ile Lys Ile Ser Ile Tyr Gln Ile Ile Lys
    210                 215                 220

Glu Tyr Thr Asn Arg Asp Ala Asp Leu Phe Leu Leu Asp Thr Arg Lys
225                 230                 235                 240

Ala Gln Ala Leu Asp Val Gly Trp Leu Val Phe Asp Ile Thr Val Thr
                245                 250                 255

Ser Asn His Trp Val Ile Asn Pro Gln Asn Asn Leu Gly Leu Gln Leu
            260                 265                 270

Cys Ala Glu Thr Gly Asp Gly Arg Ser Ile Asn Val Lys Ser Ala Gly
        275                 280                 285

Leu Val Gly Arg Gln Gly Pro Gln Ser Lys Gln Pro Phe Met Val Ala
    290                 295                 300
```

Phe Phe Lys Ala Ser Glu Val Leu Leu Arg Ser Val Arg Ala Ala Asn
305 310 315 320

Lys Arg Lys Asn Gln Asn Arg Asn Lys Ser Ser Ser His Gln Asp Ser
325 330 335

Ser Arg Met Ser Ser Val Gly Asp Tyr Asn Thr Ser Glu Gln Lys Gln
340 345 350

Ala Cys Lys Lys His Glu Leu Tyr Val Ser Phe Arg Asp Leu Gly Trp
355 360 365

Gln Asp Trp Ile Ile Ala Pro Glu Gly Tyr Ala Ala Phe Tyr Cys Asp
370 375 380

Gly Glu Cys Ser Phe Pro Leu Asn Ala His Met Asn Ala Thr Asn His
385 390 395 400

Ala Ile Val Gln Thr Leu Val His Leu Met Phe Pro Asp His Val Pro
405 410 415

Lys Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile Ser Val Leu Tyr
420 425 430

Phe Asp Asp Ser Ser Asn Val Ile Leu Lys Lys Tyr Arg Asn Met Val
435 440 445

Val Arg Ser Cys Gly Cys His
450 455

<210> 29
<211> 112
<212> PRT
<213> Homo sapiens

<400> 29

Pro Ser Ser Ala Ser Asp Tyr Asn Ser Ser Glu Leu Lys Thr Ala Cys
1 5 10 15

Arg Lys His Glu Leu Tyr Val Ser Phe Gln Asp Leu Gly Trp Gln Trp
20 25 30

Ile Ile Ala Pro Lys Gly Tyr Ala Ala Asn Tyr Cys Asp Gly Glu Cys

```
        35                  40                  45

Ser Pro Pro Leu Asn His Thr Ala Asn His Ala Ile Val Gln Thr Leu
    50                  55                  60

Val His Leu Met Asn Pro Glu Tyr Val Pro Lys Pro Cys Cys Ala Pro
65                  70                  75                  80

Thr Lys Leu Asn Ala Ile Ser Val Leu Tyr Phe Asp Asp Asn Ser Asn
                85                  90                  95

Val Ile Lys Lys Tyr Arg Asn Met Val Val Arg Ala Cys Gly Cys His
            100                 105                 110


<210>  30
<211>  112
<212>  PRT
<213>  Homo sapiens

<400>  30

Pro Ala Asn Val Ala Glu Asn Ser Ser Ser Asp Gln Arg Gln Ala Cys
1               5                   10                  15

Lys Lys His Glu Leu Tyr Val Ser Phe Arg Asp Leu Gly Trp Gln Trp
            20                  25                  30

Ile Ile Ala Pro Glu Gly Tyr Ala Ala Tyr Tyr Cys Glu Gly Glu Cys
        35                  40                  45

Ala Phe Pro Leu Asn Ser Ala Thr Asn His Ala Ile Val Gln Thr Leu
    50                  55                  60

Val His Phe Ile Asn Pro Glu Thr Val Pro Lys Pro Cys Cys Ala Pro
65                  70                  75                  80

Thr Gln Leu Asn Ala Ile Ser Val Leu Tyr Phe Asp Asp Ser Ser Asn
                85                  90                  95

Val Ile Lys Lys Tyr Arg Asn Met Val Val Arg Ala Cys Gly Cys His
            100                 105                 110


<210>  31
<211>  403
<212>  PRT
```

<213> Homo sapiens

<400> 31

Pro Met Thr Ala Leu Pro Gly Pro Leu Trp Leu Leu Gly Leu Ala Leu
1 5 10 15

Cys Ala Leu Gly Gly Gly Gly Pro Gly Leu Arg Pro Pro Pro Gly Cys
20 25 30

Pro Gln Arg Arg Leu Gly Ala Arg Glu Arg Arg Asp Val Gln Arg Glu
35 40 45

Ile Leu Ala Val Leu Gly Leu Pro Gly Arg Pro Arg Pro Arg Ala Pro
50 55 60

Pro Ala Ala Ser Arg Leu Pro Ala Ser Ala Pro Leu Phe Met Leu Asp
65 70 75 80

Leu Tyr His Ala Met Ala Gly Asp Asp Asp Glu Asp Gly Ala Pro Ala
85 90 95

Glu Arg Arg Leu Gly Arg Ala Asp Leu Val Met Ser Phe Val Asn Met
100 105 110

Val Glu Arg Asp Arg Ala Leu Gly His Gln Glu Pro His Trp Lys Glu
115 120 125

Phe Arg Phe Asp Leu Thr Gln Ile Pro Ala Gly Glu Ala Val Thr Ala
130 135 140

Ala Glu Phe Arg Ile Tyr Lys Val Pro Ser Ile His Leu Leu Asn Arg
145 150 155 160

Thr Leu His Val Ser Met Phe Gln Val Val Gln Glu Gln Ser Asn Arg
165 170 175

Glu Ser Asp Leu Phe Phe Leu Asp Leu Gln Thr Leu Arg Ala Gly Asp
180 185 190

Glu Gly Trp Leu Val Leu Asp Val Thr Ala Ala Ser Asp Cys Trp Leu
195 200 205

Leu Lys Arg His Lys Asp Leu Gly Leu Arg Leu Tyr Val Glu Thr Glu

```
    210                 215                 220

Asp Gly His Ser Val Asp Pro Gly Leu Ala Gly Leu Leu Gly Gln Arg
225                 230                 235                 240

Ala Pro Arg Ser Gln Gln Pro Phe Val Val Thr Phe Phe Arg Ala Ser
                245                 250                 255

Pro Ser Pro Ile Arg Thr Pro Arg Ala Val Arg Pro Leu Arg Arg Arg
        260                 265                 270

Gln Pro Lys Lys Ser Asn Glu Leu Pro Gln Ala Asn Arg Leu Pro Gly
    275                 280                 285

Ile Phe Asp Asp Val His Gly Ser His Gly Arg Gln Val Cys Arg Arg
290                 295                 300

His Glu Leu Tyr Val Ser Phe Gln Asp Leu Gly Trp Leu Asp Trp Val
305                 310                 315                 320

Ile Ala Pro Gln Gly Tyr Ser Ala Tyr Tyr Cys Glu Gly Glu Cys Ser
                325                 330                 335

Phe Pro Leu Asp Ser Cys Met Asn Ala Thr Asn His Ala Ile Leu Gln
            340                 345                 350

Ser Leu Val His Leu Met Lys Pro Asn Ala Val Pro Lys Ala Cys Cys
        355                 360                 365

Ala Pro Thr Lys Leu Ser Ala Thr Ser Val Leu Tyr Tyr Asp Ser Ser
370                 375                 380

Asn Asn Val Ile Leu Arg Lys His Arg Asn Met Val Val Lys Ala Cys
385                 390                 395                 400

Gly Cys His
```

<210> 32
<211> 425
<212> PRT
<213> Homo sapiens

<400> 32

```
Pro Met Gly Ser Leu Val Leu Thr Leu Cys Ala Leu Phe Cys Leu Ala
1               5                  10                  15

Ala Tyr Leu Val Ser Gly Ser Pro Ile Met Asn Leu Glu Gln Ser Pro
            20                  25                  30

Leu Glu Glu Asp Met Ser Leu Phe Gly Asp Val Phe Ser Glu Gln Asp
        35                  40                  45

Gly Val Asp Phe Asn Thr Leu Leu Gln Ser Met Lys Asp Glu Phe Leu
    50                  55                  60

Lys Thr Leu Asn Leu Ser Asp Ile Pro Thr Gln Asp Ser Ala Lys Val
65                  70                  75                  80

Asp Pro Pro Glu Tyr Met Leu Glu Leu Tyr Asn Lys Phe Ala Thr Asp
                85                  90                  95

Arg Thr Ser Met Pro Ser Ala Asn Ile Ile Arg Ser Phe Lys Asn Glu
            100                 105                 110

Asp Leu Phe Ser Gln Pro Val Ser Phe Asn Gly Leu Arg Lys Tyr Pro
        115                 120                 125

Leu Leu Phe Asn Val Ser Ile Pro His His Glu Glu Val Ile Met Ala
    130                 135                 140

Glu Leu Arg Leu Tyr Thr Leu Val Gln Arg Asp Arg Met Ile Tyr Asp
145                 150                 155                 160

Gly Val Asp Arg Lys Ile Thr Ile Phe Glu Val Leu Glu Ser Lys Gly
                165                 170                 175

Asp Asn Glu Gly Glu Arg Asn Met Leu Val Leu Val Ser Gly Glu Ile
            180                 185                 190

Tyr Gly Thr Asn Ser Glu Trp Glu Thr Phe Asp Val Thr Asp Ala Ile
        195                 200                 205

Arg Arg Trp Gln Lys Ser Gly Ser Ser Thr His Gln Leu Glu Val His
    210                 215                 220
```

```
Ile Glu Ser Lys His Asp Glu Ala Glu Asp Ala Ser Ser Gly Arg Leu
225                 230                 235                 240

Glu Ile Asp Thr Ser Ala Gln Asn Lys His Asn Pro Leu Leu Ile Val
                245                 250                 255

Phe Ser Asp Asp Gln Ser Ser Asp Lys Glu Arg Lys Glu Glu Leu Asn
            260                 265                 270

Glu Met Ile Ser His Glu Gln Leu Pro Glu Leu Asp Asn Leu Gly Leu
        275                 280                 285

Asp Ser Phe Ser Ser Gly Pro Gly Glu Glu Ala Leu Leu Gln Met Arg
    290                 295                 300

Ser Asn Ile Ile Tyr Asp Ser Thr Ala Arg Ile Arg Arg Asn Ala Lys
305                 310                 315                 320

Gly Asn Tyr Cys Lys Arg Thr Pro Leu Tyr Ile Asp Phe Lys Glu Ile
                325                 330                 335

Gly Trp Asp Ser Trp Ile Ile Ala Pro Pro Gly Tyr Glu Ala Tyr Glu
        340                 345                 350

Cys Arg Gly Val Cys Asn Tyr Pro Leu Ala Glu His Leu Thr Pro Thr
        355                 360                 365

Lys His Ala Ile Ile Gln Ala Leu Val His Leu Lys Asn Ser Gln Lys
    370                 375                 380

Ala Ser Lys Ala Cys Cys Val Pro Thr Lys Leu Glu Pro Ile Ser Ile
385                 390                 395                 400

Leu Tyr Leu Asp Lys Gly Val Val Thr Tyr Lys Phe Lys Tyr Glu Gly
                405                 410                 415

Met Ala Val Ser Glu Cys Gly Cys Arg
        420                 425
```

<210> 33
<211> 408
<212> PRT
<213> Homo sapiens

<400> 33

Pro Met Val Leu Ala Ala Pro Leu Leu Leu Gly Phe Leu Leu Leu Ala
1 5 10 15

Leu Glu Leu Arg Pro Arg Gly Glu Ala Ala Glu Gly Pro Ala Ala Ala
20 25 30

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Val Gly Gly Glu Arg
35 40 45

Ser Ser Arg Pro Ala Pro Ser Val Ala Pro Glu Pro Asp Gly Cys Pro
50 55 60

Val Cys Val Trp Arg Gln His Ser Arg Glu Leu Arg Leu Glu Ser Ile
65 70 75 80

Lys Ser Gln Ile Leu Ser Lys Leu Arg Leu Lys Glu Ala Pro Asn Ile
85 90 95

Ser Arg Glu Val Val Lys Gln Leu Leu Pro Lys Ala Pro Pro Leu Gln
100 105 110

Gln Ile Leu Asp Leu His Asp Phe Gln Gly Asp Ala Leu Gln Pro Glu
115 120 125

Asp Phe Leu Glu Glu Asp Glu Tyr His Ala Thr Thr Glu Thr Val Ile
130 135 140

Ser Met Ala Gln Glu Thr Asp Pro Ala Val Gln Thr Asp Gly Ser Pro
145 150 155 160

Leu Cys Cys His Phe His Phe Ser Pro Lys Val Met Phe Thr Lys Val
165 170 175

Leu Lys Ala Gln Leu Trp Val Tyr Leu Arg Pro Val Pro Arg Pro Ala
180 185 190

Thr Val Tyr Leu Gln Ile Leu Arg Leu Lys Pro Leu Thr Gly Glu Gly
195 200 205

Thr Ala Gly Gly Gly Gly Gly Gly Arg Arg His Ile Arg Ile Arg Ser
210 215 220

```
Leu Lys Ile Glu Leu His Ser Arg Ser Gly His Trp Gln Ser Ile Asp
225                 230                 235                 240

Phe Lys Gln Val Leu His Ser Trp Phe Arg Gln Pro Gln Ser Asn Trp
                245                 250                 255

Gly Ile Glu Ile Asn Ala Phe Asp Pro Ser Gly Thr Asp Leu Ala Val
            260                 265                 270

Thr Ser Leu Gly Pro Gly Ala Glu Gly Leu His Pro Phe Met Glu Leu
        275                 280                 285

Arg Val Leu Glu Asn Thr Lys Arg Ser Arg Arg Asn Leu Gly Leu Asp
    290                 295                 300

Cys Asp Glu His Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
305                 310                 315                 320

Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
                325                 330                 335

Tyr Lys Ala Asn Tyr Cys Ser Gly Gln Cys Glu Tyr Met Phe Met Gln
            340                 345                 350

Lys Tyr Pro His Thr His Leu Val Gln Gln Ala Asn Pro Arg Gly Ser
        355                 360                 365

Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
    370                 375                 380

Tyr Phe Asn Asp Lys Gln Gln Ile Ile Tyr Gly Lys Ile Pro Gly Met
385                 390                 395                 400

Val Val Asp Arg Cys Gly Cys Ser
                405
```

<210> 34
<211> 393
<212> PRT
<213> Homo sapiens

<400> 34

```
Pro Met Val Leu Leu Ser Ile Leu Arg Ile Leu Phe Leu Cys Glu Leu
```

```
1               5                   10                  15

Val Leu Phe Met Glu His Arg Ala Gln Met Ala Glu Gly Gly Gln Ser
            20                  25                  30

Phe Ile Ala Leu Leu Ala Glu Ala Pro Thr Leu Pro Leu Ile Glu Glu
        35                  40                  45

Met Leu Glu Glu Ser Pro Gly Glu Gln Pro Arg Lys Pro Arg Leu Leu
    50                  55                  60

Gly His Ser Leu Arg Tyr Met Leu Glu Leu Tyr Arg Arg Ser Ala Asp
65                  70                  75                  80

Ser His Gly His Pro Arg Glu Asn Arg Thr Ile Gly Ala Thr Met Val
                85                  90                  95

Arg Leu Val Lys Pro Leu Thr Ser Val Ala Arg Pro His Arg Gly Thr
            100                 105                 110

Trp His Ile Gln Ile Leu Gly Phe Pro Leu Arg Pro Asn Arg Gly Leu
        115                 120                 125

Tyr Gln Leu Val Arg Ala Thr Val Val Tyr Arg His His Leu Gln Leu
    130                 135                 140

Thr Arg Phe Asn Leu Ser Cys His Val Glu Pro Trp Val Gln Lys Asn
145                 150                 155                 160

Pro Thr Asn His Phe Pro Ser Ser Glu Gly Asp Ser Ser Lys Pro Ser
                165                 170                 175

Leu Met Ser Asn Ala Trp Lys Glu Met Asp Ile Thr Gln Leu Val Gln
            180                 185                 190

Gln Arg Phe Trp Asn Asn Lys Gly His Arg Ile Leu Arg Leu Arg Phe
        195                 200                 205

Met Cys Gln Gln Gln Lys Asp Ser Gly Gly Leu Glu Leu Trp His Gly
    210                 215                 220

Thr Ser Ser Leu Asp Ile Ala Phe Leu Leu Leu Tyr Phe Asn Asp Thr
225                 230                 235                 240
```

His Lys Ser Ile Arg Lys Ala Lys Phe Leu Pro Arg Gly Met Glu Glu
245 250 255

Phe Met Glu Arg Glu Ser Leu Leu Arg Arg Thr Arg Gln Ala Asp Gly
260 265 270

Ile Ser Ala Glu Val Thr Ala Ser Ser Ser Lys His Ser Gly Pro Glu
275 280 285

Asn Asn Gln Cys Ser Leu His Pro Phe Gln Ile Ser Phe Arg Gln Leu
290 295 300

Gly Trp Asp His Trp Ile Ile Ala Pro Pro Phe Tyr Thr Pro Asn Tyr
305 310 315 320

Cys Lys Gly Thr Cys Leu Arg Val Leu Arg Asp Gly Leu Asn Ser Pro
325 330 335

Asn His Ala Ile Ile Gln Asn Leu Ile Asn Gln Leu Val Asp Gln Ser
340 345 350

Val Pro Arg Pro Ser Cys Val Pro Tyr Lys Tyr Val Pro Ile Ser Val
355 360 365

Leu Met Ile Glu Ala Asn Gly Ser Ile Leu Tyr Lys Glu Tyr Glu Gly
370 375 380

Met Ile Ala Glu Ser Cys Thr Cys Arg
385 390

<210> 35
<211> 134
<212> PRT
<213> Homo sapiens

<400> 35

Pro Met Arg Lys His Val Leu Ala Ala Ser Phe Ser Met Leu Ser Leu
1 5 10 15

Leu Val Ile Met Gly Asp Thr Asp Ser Lys Thr Asp Ser Ser Phe Ile
20 25 30

Met Asp Ser Asp Pro Arg Arg Cys Met Arg His His Tyr Val Asp Ser
35 40 45

Ile Ser His Pro Leu Tyr Lys Cys Ser Ser Lys Met Val Leu Leu Ala
50 55 60

Arg Cys Glu Gly His Cys Ser Gln Ala Ser Arg Ser Glu Pro Leu Val
65 70 75 80

Ser Phe Ser Thr Val Leu Lys Gln Pro Phe Arg Ser Ser Cys His Cys
85 90 95

Cys Arg Pro Gln Thr Ser Lys Leu Lys Ala Leu Arg Leu Arg Cys Ser
100 105 110

Gly Gly Met Arg Leu Thr Ala Thr Tyr Arg Tyr Ile Leu Ser Cys His
115 120 125

Cys Glu Glu Cys Asn Ser
130

<210> 36
<211> 373
<212> PRT
<213> Homo sapiens

<400> 36

Pro Met Pro Pro Pro Gln Gln Gly Pro Cys Gly His His Leu Leu Leu
1 5 10 15

Leu Leu Ala Leu Leu Leu Pro Ser Leu Pro Leu Thr Arg Ala Pro Val
20 25 30

Pro Pro Gly Pro Ala Ala Ala Leu Leu Gln Ala Leu Gly Leu Arg Asp
35 40 45

Glu Pro Gln Gly Ala Pro Arg Leu Arg Pro Val Pro Pro Val Met Trp
50 55 60

Arg Leu Phe Arg Arg Arg Asp Pro Gln Glu Thr Arg Ser Gly Ser Arg
65 70 75 80

Arg Thr Ser Pro Gly Val Thr Leu Gln Pro Cys His Val Glu Glu Leu
85 90 95

```
Gly Val Ala Gly Asn Ile Val Arg His Ile Pro Asp Arg Gly Ala Pro
            100                 105                 110

Thr Arg Ala Ser Glu Pro Val Ser Ala Ala Gly His Cys Pro Glu Trp
        115                 120                 125

Thr Val Val Phe Asp Leu Ser Ala Val Glu Pro Ala Glu Arg Pro Ser
    130                 135                 140

Arg Ala Arg Leu Glu Leu Arg Phe Ala Ala Ala Ala Ala Ala Ala Pro
145                 150                 155                 160

Glu Gly Gly Trp Glu Leu Ser Val Ala Gln Ala Gly Gln Gly Ala Gly
                165                 170                 175

Ala Asp Pro Gly Pro Val Leu Leu Arg Gln Leu Val Pro Ala Leu Gly
            180                 185                 190

Pro Pro Val Arg Ala Glu Leu Leu Gly Ala Ala Trp Ala Arg Asn Ala
        195                 200                 205

Ser Trp Pro Arg Ser Leu Arg Leu Ala Leu Ala Leu Arg Pro Arg Ala
    210                 215                 220

Pro Ala Ala Cys Ala Arg Leu Ala Glu Ala Ser Leu Leu Leu Val Thr
225                 230                 235                 240

Leu Asp Pro Arg Leu Cys His Pro Leu Ala Arg Pro Arg Arg Asp Ala
                245                 250                 255

Glu Pro Val Leu Gly Gly Gly Pro Gly Gly Ala Cys Arg Ala Arg Arg
            260                 265                 270

Leu Tyr Val Ser Phe Arg Glu Val Gly Trp His Arg Trp Val Ile Ala
        275                 280                 285

Pro Arg Gly Phe Leu Ala Asn Tyr Cys Gln Gly Gln Cys Ala Leu Pro
    290                 295                 300

Val Ala Leu Ser Gly Ser Gly Gly Pro Pro Ala Leu Asn His Ala Val
305                 310                 315                 320
```

```
Leu Arg Ala Leu Met His Ala Ala Ala Pro Gly Ala Ala Asp Leu Pro
            325                 330                 335

Cys Cys Val Pro Ala Arg Leu Ser Pro Ile Ser Val Leu Phe Phe Asp
        340                 345                 350

Asn Ser Asp Asn Val Val Leu Arg Gln Tyr Glu Asp Met Val Val Asp
    355                 360                 365

Glu Cys Gly Cys Arg
370
```

<210> 37
<211> 502
<212> PRT
<213> Homo sapiens

<400> 37

```
Pro Met Arg Leu Pro Lys Leu Leu Thr Phe Leu Leu Trp Tyr Leu Ala
1               5                   10                  15

Trp Leu Asp Leu Glu Phe Ile Cys Thr Val Leu Gly Ala Pro Asp Leu
            20                  25                  30

Gly Gln Arg Pro Gln Gly Ser Arg Pro Gly Leu Ala Lys Ala Glu Ala
        35                  40                  45

Lys Glu Arg Pro Pro Leu Ala Arg Asn Val Phe Arg Pro Gly Gly His
    50                  55                  60

Ser Tyr Gly Gly Gly Ala Thr Asn Ala Asn Ala Arg Ala Lys Gly Gly
65                  70                  75                  80

Thr Gly Gln Thr Gly Gly Leu Thr Gln Pro Lys Lys Asp Glu Pro Lys
                85                  90                  95

Lys Leu Pro Pro Arg Pro Gly Gly Pro Glu Pro Lys Pro Gly His Pro
            100                 105                 110

Pro Gln Thr Arg Gln Ala Thr Ala Arg Thr Val Thr Pro Lys Gly Gln
        115                 120                 125

Leu Pro Gly Gly Lys Ala Pro Pro Lys Ala Gly Ser Val Pro Ser Ser
```

```
    130                 135                 140

Phe Leu Leu Lys Lys Ala Arg Glu Pro Gly Pro Pro Arg Glu Pro Lys
145                 150                 155                 160

Glu Pro Phe Arg Pro Pro Pro Ile Thr Pro His Glu Tyr Met Leu Ser
                165                 170                 175

Leu Tyr Arg Thr Leu Ser Asp Ala Asp Arg Lys Gly Gly Asn Ser Ser
            180                 185                 190

Val Lys Leu Glu Ala Gly Leu Ala Asn Thr Ile Thr Ser Phe Ile Asp
        195                 200                 205

Lys Gly Gln Asp Asp Arg Gly Pro Val Val Arg Lys Gln Arg Tyr Val
    210                 215                 220

Phe Asp Ile Ser Ala Leu Glu Lys Asp Gly Leu Leu Gly Ala Glu Leu
225                 230                 235                 240

Arg Ile Leu Arg Lys Lys Pro Ser Asp Thr Ala Lys Pro Ala Val Pro
                245                 250                 255

Arg Ser Arg Arg Ala Ala Gln Leu Lys Leu Ser Ser Cys Pro Ser Gly
            260                 265                 270

Arg Gln Pro Ala Ala Leu Leu Asp Val Arg Ser Val Pro Gly Leu Asp
        275                 280                 285

Gly Ser Gly Trp Glu Val Phe Asp Ile Trp Lys Leu Phe Arg Asn Phe
    290                 295                 300

Lys Asn Ser Ala Gln Leu Cys Leu Glu Leu Glu Ala Trp Glu Arg Gly
305                 310                 315                 320

Arg Thr Val Asp Leu Arg Gly Leu Gly Phe Asp Arg Ala Ala Arg Gln
                325                 330                 335

Val His Glu Lys Ala Leu Phe Leu Val Phe Gly Arg Thr Lys Lys Arg
            340                 345                 350

Asp Leu Phe Phe Asn Glu Ile Lys Ala Arg Ser Gly Gln Asp Asp Lys
        355                 360                 365
```

```
Thr Val Tyr Glu Tyr Leu Phe Ser Gln Arg Arg Lys Arg Arg Ala Pro
    370                 375                 380

Ser Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala Arg
385                 390                 395                 400

Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp Asp
                405                 410                 415

Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu Gly
            420                 425                 430

Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His Ala
        435                 440                 445

Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro Pro
    450                 455                 460

Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe Ile
465                 470                 475                 480

Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val Val
                485                 490                 495

Glu Ser Cys Gly Cys Arg
            500
```

<210> 38
<211> 376
<212> PRT
<213> Homo sapiens

<400> 38

```
Pro Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu
1               5                   10                  15

Ile Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu
            20                  25                  30

Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn
        35                  40                  45
```

```
Thr Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
    50                  55                  60

Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln
65                  70                  75                  80

Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
                85                  90                  95

Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr
            100                 105                 110

His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
        115                 120                 125

Leu Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
    130                 135                 140

Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
145                 150                 155                 160

Leu Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg
                165                 170                 175

Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser
            180                 185                 190

Leu Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp
        195                 200                 205

Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu
    210                 215                 220

Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val
225                 230                 235                 240

Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
                245                 250                 255

Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
            260                 265                 270

Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
```

275 280 285

Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
290 295 300

Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305 310 315 320

Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
325 330 335

Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
340 345 350

Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
355 360 365

Val Val Asp Arg Cys Gly Cys Ser
370 375

<210> 39
<211> 455
<212> PRT
<213> Homo sapiens

<400> 39

Pro Met Ala Arg Pro Asn Lys Phe Leu Leu Trp Phe Cys Cys Phe Ala
1 5 10 15

Trp Leu Cys Phe Pro Ile Ser Leu Gly Ser Gln Ala Ser Gly Gly Glu
20 25 30

Ala Gln Ile Ala Ala Ser Ala Glu Leu Glu Ser Gly Ala Met Pro Trp
35 40 45

Ser Leu Leu Gln His Ile Asp Glu Arg Asp Arg Ala Gly Leu Leu Pro
50 55 60

Ala Leu Phe Lys Val Leu Ser Val Gly Arg Gly Gly Ser Pro Arg Leu
65 70 75 80

Gln Pro Asp Ser Arg Ala Leu His Tyr Met Lys Lys Leu Tyr Lys Thr
85 90 95

```
Tyr Ala Thr Lys Glu Gly Ile Pro Lys Ser Asn Arg Ser His Leu Tyr
            100                 105                 110

Asn Thr Val Arg Leu Phe Thr Pro Cys Thr Arg His Lys Gln Ala Pro
        115                 120                 125

Gly Asp Gln Val Thr Gly Ile Leu Pro Ser Val Glu Leu Leu Phe Asn
    130                 135                 140

Leu Asp Arg Ile Thr Thr Val Glu His Leu Leu Lys Ser Val Leu Leu
145                 150                 155                 160

Tyr Asn Ile Asn Asn Ser Val Ser Phe Ser Ser Ala Val Lys Cys Val
                165                 170                 175

Cys Asn Leu Met Ile Lys Glu Pro Lys Ser Ser Ser Arg Thr Leu Gly
            180                 185                 190

Arg Ala Pro Tyr Ser Phe Thr Phe Asn Ser Gln Phe Glu Phe Gly Lys
        195                 200                 205

Lys His Lys Trp Ile Gln Ile Asp Val Thr Ser Leu Leu Gln Pro Leu
    210                 215                 220

Val Ala Ser Asn Lys Arg Ser Ile His Met Ser Ile Asn Phe Thr Cys
225                 230                 235                 240

Met Lys Asp Gln Leu Glu His Pro Ser Ala Gln Asn Gly Leu Phe Asn
                245                 250                 255

Met Thr Leu Val Ser Pro Ser Leu Ile Leu Tyr Leu Asn Asp Thr Ser
            260                 265                 270

Ala Gln Ala Tyr His Ser Trp Tyr Ser Leu His Tyr Lys Arg Arg Pro
        275                 280                 285

Ser Gln Gly Pro Asp Gln Glu Arg Ser Leu Ser Ala Tyr Pro Val Gly
    290                 295                 300

Glu Glu Ala Ala Glu Asp Gly Arg Ser Ser His His Arg His Arg Arg
305                 310                 315                 320
```

```
Gly Gln Glu Thr Val Ser Ser Glu Leu Lys Lys Pro Leu Gly Pro Ala
                325                 330                 335

Ser Phe Asn Leu Ser Glu Tyr Phe Arg Gln Phe Leu Leu Pro Gln Asn
            340                 345                 350

Glu Cys Glu Leu His Asp Phe Arg Leu Ser Phe Ser Gln Leu Lys Trp
        355                 360                 365

Asp Asn Trp Ile Val Ala Pro His Arg Tyr Asn Pro Arg Tyr Cys Lys
    370                 375                 380

Gly Asp Cys Pro Arg Ala Val Gly His Arg Tyr Gly Ser Pro Val His
385                 390                 395                 400

Thr Met Val Gln Asn Ile Ile Tyr Glu Lys Leu Asp Ser Ser Val Pro
                405                 410                 415

Arg Pro Ser Cys Val Pro Ala Lys Tyr Ser Pro Leu Ser Val Leu Thr
            420                 425                 430

Ile Glu Pro Asp Gly Ser Ile Ala Tyr Lys Glu Tyr Glu Asp Met Ile
        435                 440                 445

Ala Thr Lys Cys Thr Cys Arg
    450                 455

<210>  40
<211>  238
<212>  PRT
<213>  Homo sapiens

<400>  40

Pro Met Pro Gly Leu Ile Ser Ala Arg Gly Gln Pro Leu Leu Glu Val
1               5                   10                  15

Leu Pro Pro Gln Ala His Leu Gly Ala Leu Phe Leu Pro Glu Ala Pro
            20                  25                  30

Leu Gly Leu Ser Ala Gln Pro Ala Leu Trp Pro Thr Leu Ala Ala Leu
        35                  40                  45

Ala Leu Leu Ser Ser Val Ala Glu Ala Ser Leu Gly Ser Ala Pro Arg
    50                  55                  60
```

```
Ser Pro Ala Pro Arg Glu Gly Pro Pro Pro Val Leu Ala Ser Pro Ala
65                  70                  75                  80

Gly His Leu Pro Gly Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg Ala
                85                  90                  95

Arg Arg Pro Pro Pro Gln Pro Ser Arg Pro Ala Pro Pro Pro Pro Ala
            100                 105                 110

Pro Pro Ser Ala Leu Pro Arg Gly Gly Arg Ala Ala Arg Ala Gly Gly
        115                 120                 125

Pro Gly Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg
    130                 135                 140

Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp
145                 150                 155                 160

Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg
                165                 170                 175

Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu
            180                 185                 190

Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro
        195                 200                 205

Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg
    210                 215                 220

Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
225                 230                 235


<210>  41
<211>  157
<212>  PRT
<213>  Homo sapiens

<400>  41

Pro Met Ala Val Gly Lys Phe Leu Leu Gly Ser Leu Leu Leu Leu Ser
1               5                   10                  15
```

```
Leu Gln Leu Gly Gln Gly Trp Gly Pro Asp Ala Arg Gly Val Pro Val
            20                  25                  30

Ala Asp Gly Glu Phe Ser Ser Glu Gln Val Ala Lys Ala Gly Gly Thr
        35                  40                  45

Trp Leu Gly Thr His Arg Pro Leu Ala Arg Leu Arg Arg Ala Leu Ser
    50                  55                  60

Gly Pro Cys Gln Leu Trp Ser Leu Thr Leu Ser Val Ala Glu Leu Gly
65                  70                  75                  80

Leu Gly Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala Gly
            85                  90                  95

Ser Cys Pro Arg Gly Ala Arg Thr Gln His Gly Leu Ala Leu Ala Arg
            100                 105                 110

Leu Gln Gly Gln Gly Arg Ala His Gly Gly Pro Cys Cys Arg Pro Thr
        115                 120                 125

Arg Tyr Thr Asp Val Ala Phe Leu Asp Asp Arg His Arg Trp Gln Arg
    130                 135                 140

Leu Pro Gln Leu Ser Ala Ala Ala Cys Gly Cys Gly Gly
145                 150                 155

<210>  42
<211>  141
<212>  PRT
<213>  Homo sapiens

<400>  42

Pro Ser Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr
1               5                   10                  15

Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr
            20                  25                  30

Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly
        35                  40                  45

Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg
    50                  55                  60
```

```
Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val
65                  70                  75                  80

Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg
                85                  90                  95

Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp
            100                 105                 110

Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro Pro Pro Ser
        115                 120                 125

Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
    130                 135                 140
```